Saskatchewan Ministry of Agriculture

CROP PRODUCTION NEWS

Volume 32, No. 1 **May 13, 2010**

CROP PRODUCTION

PRODUCTION

Editor's Comments

By Faye Dokken-Bouchard, Crops Branch

Welcome back to another growing season with the Crop Production News (CPN)!

This year, editing and compiling duties for the CPN will be shared by Faye Dokken-Bouchard and Sean Miller at the Crops Branch. We are planning to create upcoming editions every two weeks from now until mid-September.

Each of the 10 editions will be posted on the Saskatchewan Ministry of Agriculture website at www.agriculture.gov.sk.ca (search for Crop Production News). Previous editions from 2008 and 2009 Crop Production News are also archived at the same website address.

People who have requested to receive the CPN (over 500 subscribers by the end of 2009) will be notified by email each time a new edition has been posted on the website. Please encourage your colleagues, neighbours, and customers to contact us if they wish to subscribe to CPN.

After a late harvest in 2009, an early spring, and the unexpected recent snowfall, it is hard to believe it is already time to think about seeding, spraying, crop scouting, and all the planning associated with these activities. For an update on provincial crop progress throughout the growing season, see the weekly Crop Report at www.agriculture.gov.sk.ca/Crop-Report.

The spring update to the 2010 Guide to Crop Protection is now available on our website at www.agriculture.gov.sk.ca/Guide_to_Crop_Protection.

NOTE: Throughout this document, you will see that some publications are in blue font and underlined, indicating links to website information. If you are reading this on your computer screen, press the CTRL button and click your cursor on the link to take you directly to the website. ✿

Crop Production News is a biweekly publication prepared primarily by provincial specialists with the Crops Branch of the Saskatchewan Ministry of Agriculture. It is a compilation of articles related to entomology, plant pathology, weed science, soils and agronomy issues.

Please do not use any of these articles for any other purpose without first asking the author's permission.

If you wish to be added to or removed from our mailing list, forward your request by email to: sean.miller@gov.sk.ca

INSIDE

Starter Phosphate Fertilizer to Get the Crop off to a Rapid Start.....2
What is the Crop Report? 3
Spring Considerations for Winter Wheat Production.....4
General Health of Lentil Crops.....5
Productivity of Forage Species is Impacted by the Date Grazing Begins.....6
Seasonal Changes at the Crop Protection Lab.....8
The Pea Leaf Weevil in Saskatchewan.....9
Regional Crop Specialists.....10

Starter Phosphate Fertilizer to Get the Crop Off to a Rapid Start

By Ken Panchuk, Provincial Specialist, Soils

Crops require adequate phosphate during early growth to promote healthy root growth, especially under cool soil conditions. This is often referred to as the "starter" effect or "pop-up" effect. Rapid emergence allows the crop to take advantage of the long spring days. Phosphate also plays an important role in nitrogen-fixation of pulse crops.

Starter phosphate needs to be banded with or near the seed for optimal early uptake. Follow recommended application rates, because some crops, such asfield pea and flax, are sensitive to high rates of seed-placed phosphate.

Other macronutrients determined to be deficient by a soil test also need to be added in the correct amounts to form a balance of nutrients for optimal crop health and productivity.

For more information on starter phosphate fertilizer, refer to *Phosphorous Fertilization in Crop Production* and *Guidelines for Safe Rates of Fertilizer Applied with the Seed* on the Saskatchewan Agriculture website.☼

For information about submitting samples to Saskatchewan Agriculture's Crop Protection Lab, go to www.agriculture.gov.sk.ca (Programs & Services > Crop Protection Lab Services); or www.agriculture.gov.sk.ca/web_videos
Or phone (306) 787-8130.

What is the Crop Report?

By Daphne Cruise, Regional Crops Specialist, Moose Jaw

The Saskatchewan Ministry of Agriculture has a fleet of dedicated and valued crop reporters who report weekly activities and updates from the agriculture community during the busy farming months.The Crop Report is published weekly and utilized by many people in the agriculture industry.

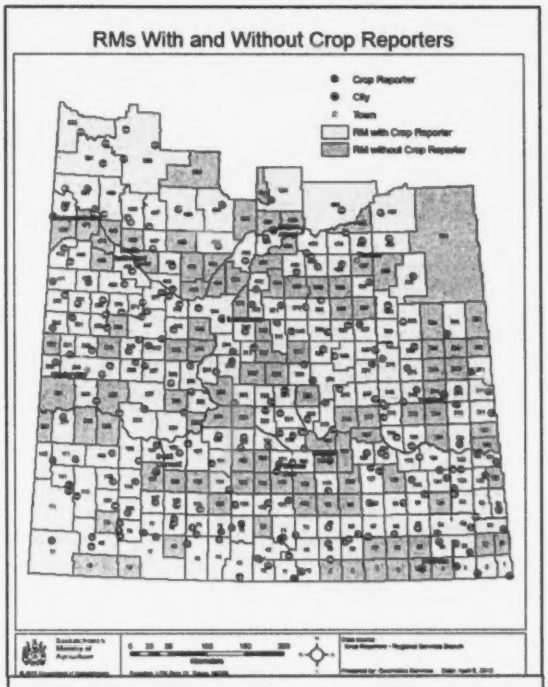

Figure 2: RMs With and Without Crop Reporters. Source: Saskatchewan Agriculture.

Each week from April to October, crop reporters provide progress on seeding, haying and harvest. They also predict topsoil moisture conditions, yields and grades, as well as record precipitation for their area and more. The weather and growing conditions can vary greatly from one end of a rural municipality (RM) to the next. Ideally we could have one crop reporter for each RM. If more reporters are interested, we welcome the participation, as some RMs have up to five crop reporters. The map shows areas in the province where we have crop reporters, and areas where crop reporters are needed. As the areas without a crop reporter are filled, the information collected and reported during the growing season will become more inclusive and precise, resulting in a more accurate description of what is going on throughout the province.

If you are interested in becoming a crop reporter for the Ministry of Agriculture, have a look at the map - a valued crop reporter may be needed in your RM.

For more information: Contact the Agriculture Knowledge Centre- 1-866-457-2377
To read the Crop Report, see www.agriculture.gov.sk.ca/Crop-Report ✿

Spring Considerations for Winter Wheat Production

By Blaine Recksiedler, Provincial Specialist, Cereal Crops

Winter wheat producers seeded approximately 650,000 acres in Western Canada in the fall of 2009, compared to 1.2M acres a year prior. This decrease is due primarily to the late fall harvest.

Interest in winter wheat production can be attributed to improvements in variety characteristics, marketing opportunities (food, feed and fuel), yield advantage, less pesticide use, and spreading out the workload and production risks. Winter wheat fits well in zero-tillage production systems, especially following canola in the cropping rotation.

Figure 3: Winter Wheat Seedlings
Source: Ducks Unlimited Canada

Spring Assessment

Slow growth in the spring doesn't necessarily indicate the crop has suffered winter injury or didn't vernalize properly. In most instances, the crop will survive provided proper agronomic practices were used. A return to soil temperatures above 9°C (at crown depth) rapidly accelerates plant growth and completes the de-hardening process.

To properly assess winter wheat survival in the spring, it is helpful to be aware of conditions in the fall and winter. Areas with poor emergence will be prone to winterkill, and areas with adequate snow cover (as little as 10 cm or four inches) will be more likely to survive.

Leaf colour is not always a good indication of winter survival. Green leaves early in the spring do not always mean the crop has survived, while brown leaves may not be an indication of winterkill. The best indication of survival is new white root growth from the crown tissue.

Wait as long as possible for proper field assessment. If possible, assess after spring seeding is completed. This will give winter wheat plants time to re-grow, while allowing time to reseed, if necessary.

If you are uncertain about winter survival, remove a few plants on a warm day and place crowns on a moist paper towel in a warm room exposed to some daylight. Damaged crown tissue will quickly turn brown, while healthy tissue will remain white and may begin to produce new roots within a few days.

(Continued on page 5)

Spring Considerations for Winter Wheat Production
(Continued from page 4)

Another factor to consider before terminating a winter wheat crop is the plant's ability to tiller and compensate for thin stands. Keeping the crop may be a preferred choice, especially when considering the costs of terminating the crop and reseeding.

Nitrogen
Winter cereals have greater yield potential than spring cereal crops and therefore need additional nitrogen fertilizer to realize potential yield and quality. Recommended rates are approximately 25 per cent higher than for spring cereals. Winter cereals are heavy users of nitrogen quite early in the season, and early application will provide it when needed. It is recommended that nitrogen be applied before seeding begins for other crops. Ideally, it should be applied as soon as the snow melts and the field can support fertilizing equipment. Cereal crops use 70 per cent of their nitrogen by late tillering and a three-week delay in nitrogen application could result in a 30 per cent yield penalty.

Weed Control
Winter annuals can rob the winter wheat crop of precious spring moisture and nutrients. Timing is important, so if you are waiting for spring annual weeds to germinate, don't let winter annuals get too big. If winter wheat fields are patchy because of winterkill, pay extra attention to weed control. ☼

General Health of Lentil Crops

By Dale Risula, Provincial Specialist, Special Crops

You may have done everything right when seeding your lentil crop, but the job is not over yet. There are many "must-do" tasks to manage the general health of lentil crops throughout the growing season.

Good quality, inoculated, treated seed, planted to the recommended depth and density is a good start. Lentils will have an advantage if they are handled this way, and if they are planted in a field that has not had lentils for at least three years.

Weeds will soon germinate, if they haven't already. A pre-seeding burn-off controls early germinating weeds and winter annuals. More weeds will likely germinate after emergence, and because lentil is a poor weed competitor, they may need more help. Conventional lentil varieties have many grassy, weed herbicides to choose from, but only one herbicide (metribuzin) for in-crop broad leaf control. Clearfield lentil varieties have three imidazolinone herbicides (Odyssey, Odyssey DLX, and Solo) to choose from for in-crop wide spectrum weed control.

Lentil pathogens can survive on crop residue and will cause disease on susceptible hosts under suitable environmental conditions. Two common lentil diseases include ascochyta blight and anthracnose.

(Continued on page 6)

General Health of Lentil Crops
(Continued from page 5)

Disease inoculum can spread from infested crop residue, as well as from early infected plants, and the risk will be higher if you or your neighbours are growing lentils under short rotations. Walk your fields early to look for symptoms and watch the weather - moisture and warm temperatures will increase the probability of disease. If symptoms are apparent or there is a high disease risk, you may have to spray fungicide to prevent the diseases from spreading. Choosing the correct fungicide depends on proper identification of the disease. If you are not sure, talk to your Saskatchewan Ministry of Agriculture Regional Crop Specialist or submit a sample to the Crop Protection Laboratory in Regina.

Insects can also be a problem for lentil crops and can cause severe problems if left unchecked. Grasshoppers will chew on flower parts and pods of lentil plants, thus impacting yield directly. When considering an insecticide, remember the economic threshold for grasshoppers is *two per m²*. Other insect pests of lentil include: pea aphids, cutworms, wireworms, and potato leafhoppers. Information about control options and thresholds is published in the current edition of the Saskatchewan Agriculture publication, *Guide to Crop Protection*.

Lentils have an indeterminate growth habit, which requires stress for the crop to ripen. As harvest time approaches, many producers will apply a registered pre-harvest herbicide to control growth and to dry down the plant. This practice will not hasten maturity; however, lentils may be harvested sooner than if left alone.

More information about lentil production can be found on the Saskatchewan Ministry of Agriculture website by clicking Production and Crops-Overview. ☼

Productivity of Forage Species is Impacted by the Date Grazing Begins

By Michel Tremblay, Provincial Specialist, Forage Crops

By all accounts, winter is a long season in Saskatchewan, and not just for humans. Livestock must contend with long periods of cold weather, consuming stored feed that is usually less palatable than what grows in the pasture during the summer. As spring - and the growing season - approaches, it is a common sight to see cattle pacing fence lines and straining to reach any new growth on the other side. That, and the pressure of getting on to other important spring work around the farm, can result in stock being turned out when the forage is not ready to be grazed. Grazing prior to range readiness results in reduced total annual forage production, reduced plant vigour, and reduced animal performance.

Range readiness can be defined as *the point at which soil and plant conditions on a seasonal pasture have progressed to a point where they can be safely grazed without damaging the soil or desirable plants*, and represents the earliest date at which livestock turnout should occur.

(Continued on page 7)

Productivity of forage species is impacted by the date grazing begins
(Continued from page 6)

The calendar date when range readiness occurs can be expected to differ from year to year because it depends on growing conditions, such as available moisture and growing degree days received. Temperature is the main factor influencing the growth rate of plants and growing degree days measure the accumulation of the duration of temperatures which are conducive to plant development. Primary forage species will also have a large impact on when range readiness occurs.

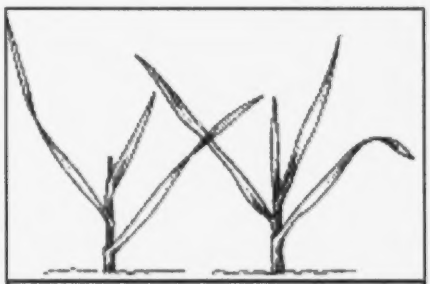

Figure 4: Grass plant at the 3 leaf stage (left) and 3.5 leaf stage (right). Source: Frank, Sedivec and Hoffman, NDSU, 1993.

In Saskatchewan, key introduced forage species such as crested wheatgrass, Russian wildrye grass, and meadow bromegrass are often used for early grazing. In areas that predominantly use native rangeland for grazing, rotation systems may be used to provide season-long grazing. Different species of grass may vary in the stage of development that indicates range readiness. Crested wheatgrass can be considered at a stage of range readiness at the three leaf stage, often coinciding with approximately six inches of growth. Meadow bromegrass can be considered to be ready at the 3.5 leaf stage.

Different forage species arrive at the target developmental stage at different rates. For instance, crested wheatgrass will be at the 3.5 leaf stage after approximately 516 growing degree days, while needle-and-thread, a common key forage species in southern Saskatchewan rangelands, requires 1014 growing degree days to reach the same developmental stage. Therefore, crested wheatgrass will be at a stage of range readiness considerably sooner than needle-and-thread.

Although pastures can be grazed prior to the onset of range readiness, the rest period following defoliation will likely be longer, and total forage production may be reduced. Adopting the concept of range readiness has many potential benefits for the land manager. The initiation of grazing when range readiness is achieved on a given pasture will result in increased animal gains through increased feed intake and efficiency, enhanced plant vigour, and total forage production will be maintained. ☼

Seasonal Changes at the Crop Protection Lab

By Philip Northover, Supervisor, Crop Protection Laboratory

While the winter would seem like a slow time of year in a laboratory specializing in plant problems, this past winter has been a busy one. The identification of species of *Fusarium* fungi for the 2009 fusarium head blight survey in barley and wheat took place from September to March. Herbicide resistance testing began in January, and should be completed by the end of May. In 2009, we received 262 submissions, as opposed to 270 last year. Another addition to the lab this past winter, was the testing of honey bees for varroa and tracheal mites to provide support to the work conducted in Prince Albert during the summer months.

In October, we were fortunate to work with the Open Door Society in Regina, and give Sadia Munir, a recent immigrant to Regina, the opportunity to gain some work experience at the Crop Protection Laboratory and at the Crops Branch at the Walter Scott Building.

Beginning in February, Michael Miller, a student at Avonlea High School, started assisting the Crop Protection Laboratory. He will gain experience at the lab once a week until mid-June, as part of the Career Work Exploration program.

Beginning in March, the Crop Protection Laboratory gave a series of tours to representatives of the boards of various crop associations including pulse, flax, canola, vegetable, seed potato, fruit, canaryseed, and mustard. These tours gave us an opportunity to demonstrate the laboratory's resources and services. We found the interaction with all the groups positive and enjoyable.

At the end of April, our first Crop Protection Laboratory web video was unveiled to the world. If you want to see action, adventure, and a roller coaster ride of emotion, I would suggest something else. However, if you need information on how to submit a weed sample, go to www.agriculture.gov.sk.ca/web_videos, to see how it is done.

On May 3, Brianna Brown began working as our summer student, focusing chiefly on Dutch Elm Disease, but also assisting the Crop Protection Laboratory with other tasks.

At the time of writing, a case of saskatoon berry with cytospora canker, two currently unidentified insects, and three weed submissions were submitted to the lab in the new season. One of the weeds was identified as *Ellisia nyctelea* L. (commonly referred to as Waterpod or Aunt Lucy).

We are looking forward to the upcoming summer months to find out what surprises await us. ☼

The Pea Leaf Weevil in Saskatchewan – Spring 2010

By Scott Hartley, Provincial Specialist, Insect / Vertebrate Pests and Shannon Chant, Regional Crops Specialist, Swift Current

Provincial surveys for pea leaf weevil over the last three years indicate that although the most severe infestations were in the southwest region, the pest is expanding its range eastward. Results of the survey conducted in June 2009 are shown in Figure 5.

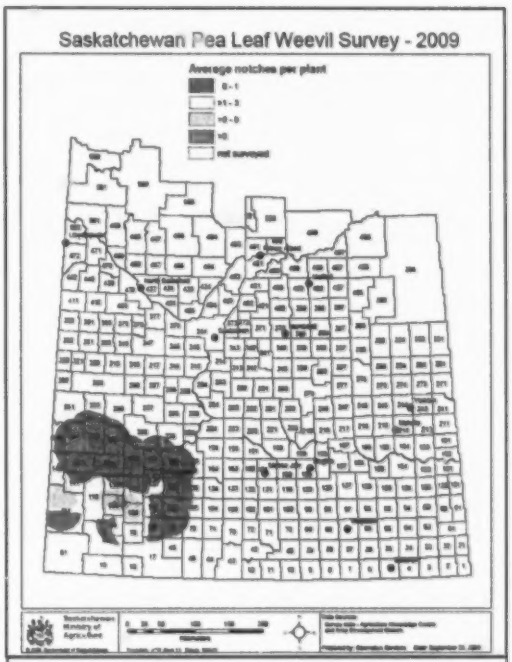

Figure 5: 2009 Saskatchewan Pea Leaf Weevil Survey Map.
Source: Saskatchewan Agriculture.

The most obvious sign of pea leaf weevil presence is scalloped or notched leaf margins. This is a result of over-wintered adults chewing on the pea plants. Adult weevils are greyish brown and can readily blend in to the surrounding soil. Because these pests are difficult to observe, the economic threshold and the survey relate to feeding notches on pea plants at various locations in a field, rather than on insect counts.

Adult weevil feeding on the leaves of pea seedlings is generally not a serious concern. The plants can usually tolerate and outgrow the damage, especially if they are past the sixth node stage. However, complete defoliation can occur under heavy infestations or if seedlings are small.

Adult females deposit eggs on the soil at the base of the host plants and under good conditions, the female weevils will lay large numbers of eggs. The larvae that hatch will burrow into the soil causing more serious damage when feeding on the nitrogen-fixing nodules on the roots of the plants.

The pea leaf weevil can be controlled through a seed treatment or foliar insecticide application. Seed treatments may not be a cost effective measure unless there was damage noted in the previous year. Damage is often variable from field to field. Research at Agriculture and Agri-Food Canada (AAFC), Lethbridge, suggests the best yield response from insecticides results with a seed treatment. If a foliar application is required, the current threshold for insecticide application is *one notch on the clam leaves per three plants prior to the sixth node stage* of crop growth.

Refer to the current edition of the Saskatchewan Agriculture publication *Guide to Crop Protection* for registered control products.☼

Regional Crops Specialists - Who's Who and What Do We Do?

By Tom Boyle, Regional Crops Specialist, Prince Albert

The Saskatchewan Ministry of Agriculture's Regional Crops Specialists, located in 10 offices around the province, are available to help serve the agricultural community and individual farmers. Partnerships and co-operation with industry agrologists, agronomists and CCAs is an integral part of our work plan.

Our mandate is to ensure farmers, ranchers, producer groups and industry have access to production and business information and services. Extension activities are part of the service and include training events, meetings and field calls. Please contact us for further information and service.

Kindersley - John Ippolito, PAg - 463-5442
john.ippolito@gov.sk.ca

John has a Bachelor of Science in Agriculture from the University of Saskatchewan. He has worked in agriculture extension with a focus on crop production and farm management since 1987. His main areas of focus have been specialty crop production with an emphasis on lentils and canaryseed.

Prince Albert - Tom Boyle, PAg - 953-2362
tom.boyle@gov.sk.ca

Tom received a Bachelor of Science in Agriculture from the University of Saskatchewan. His career with Saskatchewan Agriculture includes agricultural extension and community development in several locations across northern Saskatchewan. He is a valued resource for general crop management and crops-based research and demonstration.

Swift Current - Shannon Chant, PAg - 778-8291
shannon.chant@gov.sk.ca

Shannon grew up on a grain farm southwest of Regina and has a Master of Science and Bachelor of Science in Agriculture in plant sciences from the University of Saskatchewan. Since joining Saskatchewan Agriculture, she has worked in various regions in western Saskatchewan. Shannon is especially interested in new crops, value-adding and providing producers with results from local research.

(Continued on page 11)

Regional Crops Specialists - Who's Who and What Do We Do?

(Continued from page 10)

Moose Jaw - Daphne Cruise, PAg - 694-3587
daphne.cruise@gov.sk.ca

Daphne has a Bachelor of Science in Agriculture from the University of Saskatchewan with a major in environmental science and a minor in rangeland resources. She comes from a cattle and grain farm near Findlater and currently farms with her husband at Stalwart. Daphne worked with the Agriculture Knowledge Centre, first as an agrologist intern, and now as a regional crops specialist. Daphne is interested in new crops and emerging cropping systems, including organic agriculture. Daphne also works on the Crop Report and with the Saskatchewan Young Ag-Entrepreneurs, Saskatchewan Agriculture's Youth Advisory Committee and the Agriculture in the Classroom program.

North Battleford - Sherrilyn Phelps, PAg, CCA - 446-7475
sherrilyn.phelps@gov.sk.ca

Sherrilyn has a Master of Science and Bachelor of Science in Agriculture from the University of Saskatchewan. Sherrilyn brings education and experience in agronomy, research and business development to Saskatchewan Agriculture. She continues her involvement with field research through association with the Western Applied Research Corporation, and Agriculture and Agri-Food Canada. As a regional crops specialist, Sherrilyn works in applied research, helping producers and the agriculture industry adapt to changing practices and opportunities in crop production and utilization.

North Battleford – Colleen Redlick - Crops Intern - 446-7475
colleen.redlick@gov.sk.ca

Colleen grew up on a grain farm north of Biggar, Saskatchewan. She recently graduated from the University of Saskatchewan with a Bachelor of Science in Agriculture, specializing in plant sciences and agronomy, with great distinction. Colleen spent two field seasons working for Bayer CropScience in their canola research program and was also a research assistant at the University of Saskatchewan in the Department of Plant Sciences.

(Continued on page 12)

Regional Crops Specialists - Who's Who and What Do We Do?
(Continued from page 11)

Outlook - Gerry Gross, PAg - 867-5523
gerry.gross@gov.sk.ca

Gerry graduated from the University of Saskatchewan with a Bachelor of Science in Agriculture and started as an irrigation agrologist with Saskatchewan Agriculture in 1983, serving as Manager of Irrigation Agronomic Services for Saskatchewan Agriculture and Saskatchewan Water from 1987 to 1996. Gerry is currently a Senior Irrigation Agrologist with the Irrigation Branch and is the supervisor of the Research and Demonstration Unit.

Outlook - Ian Schemenauer - Crops Intern - 867-5506
ian.schemenauer@gov.sk.ca

Ian grew up on a farm in the St. James area east of Lake Lenore. He recently graduated from the University of Saskatchewan with a Bachelor of Science in Agriculture, specializing in plant sciences and minor in economics. He has spent two summers working for Cargill in their Crop Scout Program and was also a research assistant in the Department of Plant Sciences at the University of Saskatchewan. In addition to working on his family's farm, Ian has volunteered for various organizations including the Big Brothers Big Sisters Mentorship Program.

Tisdale - Kim Stonehouse, AAg - 878-8807
kim.stonehouse@gov.sk.ca

Kim holds a Bachelor of Science in Agriculture, a Master of Science in agricultural and bioresource engineering and a Master of Science in environmental engineering. Before joining the Saskatchewan Ministry of Agriculture he conducted agricultural research for the East Central Research Foundation in Canora. Kim works with producers to solve crop production problems, identify applied research opportunities and assist producers in adopting new crop production technology to make their farms and businesses more profitable.

(Continued on page 13)

Regional Crops Specialists - Who's Who and What Do We Do?
(Continued from page 12)

Watrous - Shannon Urbaniak, PAg - 946-3216
shannon.urbaniak@gov.sk.ca

Shannon's background includes a Bachelor of Science in Agriculture, majoring in biology from the University of Saskatchewan and a Master of Science in plant science from the Nova Scotia Agriculture College, where she researched novel oilseed crops with a focus on camelina. Shannon brings valuable experience in the areas of applied research, agronomy, business development and organic agriculture.

Weyburn - Elaine Moats, PAg - 848-2856
elaine.moats@gov.sk.ca

Elaine has a Bachelor of Science in Agriculture from the University of Saskatchewan. Elaine has been an agricultural extension professional since 1977, serving clients, providing technical and knowledge-based expertise, backed by practical farm operating experience. One of her strengths is the ability to link producers, research and industry partners to develop programs, projects and strategies. She has a special interest in alternative oilseed crops including sunflower, pulses and crop products.

Yorkton - Zane Lewchuk, PAg - 786-1508
zane.lewchuk@gov.sk.ca

Zane has a Bachelor of Science in Agriculture from the University of Saskatchewan with a major in plant science. He has a farming background and has worked with Saskatchewan Agriculture as a crops specialist since 1979, bringing a wealth of personal and professional experience to the job. He has an extensive background in crop production and development, new crop expansion, organic farming systems, precision farming systems (that use global positioning satellites) and the use of geographic information system software for analysis. ☼

The ***Crop Production News*** is a publication of the
Crops Branch, Saskatchewan Ministry of Agriculture.
Editor: Faye Dokken-Bouchard;
Phone: (306) 787-4671;
e-mail: **faye.dokkenbouchard@gov.sk.ca**